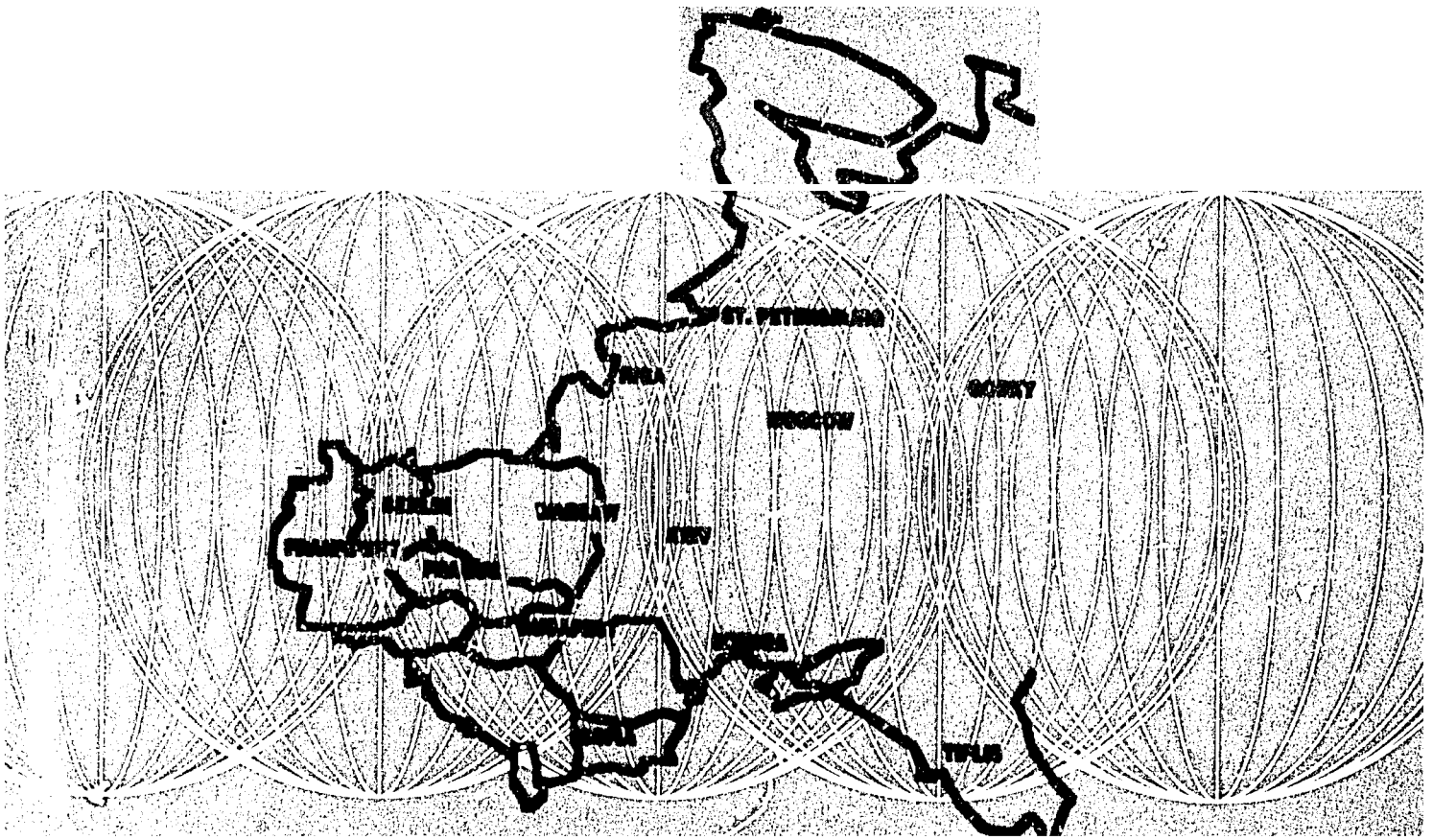
PN ABP-560 83425

AN INTERNATIONAL ACTIVITIES PROJECT

FROM PLANNING TO MARKETS

HOUSING IN EASTERN EUROPE



THE URBAN INSTITUTE

In partnership with the Office of Housing and Urban Programs (USAID)

WORK PLANS FOR ANALYSIS TO SUPPORT THE DEFERRED PAYMENT MORTGAGE

Prepared by

Katharine Mark
R. Marisol Ravicz
The Urban Institute

and

Jószef Hegedüs
Metropolitan Research Institute

Prepared for
East European Regional Housing Project, Housing Finance Component
Project 180-0034
U.S. Agency for International Development, RHUDO/EE
Contract #EUR-0034-C-00-2033-00, RFS No. 20

UI Project 6251-20
January 1993

/

TASK 1: Work Plan for Delinquency Analysis through Examination of OTP Housing Loan Files

Introduction

The most important issue related to OTP's housing lending is the need to strengthen its ability to enforce the repayment of loans. In order to properly assess this problem, systematic information is needed on trends in current delinquencies, by region and type of loan, by employment status, by payment burden, and by ratio of loans to the value of the home, and what the terms are of any negotiated repayment plans agreed to by the OTP. It is important to look for indications that delinquency is caused primarily by employment, divorce, or illness, and whether there is an increasing tendency to take advantage of the weak enforcement powers of OTP.[1] It would be useful to diagnose more fully what went wrong with the old portfolio of loans to cause delinquencies to rise so much.

A separate effort must be made to keep abreast of legal developments. The OTP legal office should explore how the garnishment and guarantor systems could be strengthened to improve recoveries, and assess the legislative prospects of exempting private lenders form the replacement housing provisions.

Participants

Péter Bencsát and Aniko Abel of the Delinquency Department of OTP, working with József Hegedüs, will be responsible for this task.

Methodology

Fifteen loan files will be requested from eleven[2] field offices (three from Budapest). Fifteen files were requested in order to ensure a total sample of 100, and it is anticipated that in some offices there will be less than fifteen.

A random sample was selected by using the monthly computer listing of loans that are is at least three months delinquent. A table of random numbers was generated and branches were provided with requests for specific randomly selected files. It was specified that loans with a delinquent amount less than HUF 30,000 be eliminated, along with renovation loans or infrastructure loans. All loans will in addition be new loans (i.e. issued after 1989).

[1] Another important possible cause to investigate is the conversion into loans of advance child-related grants, but that analysis cannot be done in this sample because of the short time elapsed since issuing of "new" loans (since 1989) which are being examined.

[2] Eleven offices will be asked instead of ten, because some purchase loan files were handled in a special central office.

A questionnaire will be sent to each branch office and will be completed by branch staff because they have special knowledge of each delinquency case which may not be noted in file.

The questionnaire and print-out of basic information on each case will be sent to the Delinquency Office, where the data will be checked and coded.

TASK 2: Work Plan for Affordability Analysis through Examination of OTP Housing Loan Files

Introduction

In order to predict the real impact of the DPM on household behavior, it would be desirable to have specific data on the current home financing behavior. Information should be gathered on amounts and sources of income of the borrower, sources of downpayment, and sources and terms of borrowed amount. In addition, an attempt should be made to determine whether employers and local government are continuing to give low rate loans for home purchase, and on the size of the loans.

Participants

Vera Tömöri of the Housing Loans Department at OTP and her staff will be responsible for this task.

Methodology

Ten field offices will each provide ten loan files, five for construction loans (self-help), and five for home purchase. The field offices were asked to take a random sample -- but no special effort was taken to ensure that it is random. A questionnaire will be completed within the Department after the loan files are received. They will then code it, and undertake analysis. There are plans to use this data and that collected under the delinquency analysis task in both analyses.

Particular attention will be given to the composition of financing and to whether composition varies by age, income, employment type, or other characteristics.

TASK 3: Workplan for Analysis of the Impact of the Deferred Payment Mortgage on OTP Liquidity

Introduction

In the early years of loan repayment, much of the interest owed on deferred payment mortgages (DPMs) is capitalized, resulting in a negative cash flow for the issuer. This task will measure the maximum volume of DPMs that the OTP could offer over the next five years without placing itself in a dangerous cash flow situation.

Participants

Dr. Judit Burucs and Mrs. Erzsebet Huth of the OTP's Asset/Liability Management Center will be responsible for this task. They will be assisted by Mr. Balázs Horvath of OTP's Policy Analysis Department.

Methodology

Summary

The team will make liquidity gap projections for July 1993, and use these figures and projections of the impact on VRM volumes of the introduction of the DPM to forecast the January 1994 gap. From the resulting January 1994 figures, the team will subtract the cash flow drain that would result from making a volume of DPM loans from July through December 1993 equal to the volume of variable rate mortgage loans made in July through December 1992, adjusted for inflation. The resulting cumulative gap will be compared to OTP's liquidity gap guidelines to make sure that the bank can accommodate this volume of DPM loans without undertaking an unacceptable liquidity risk. The team will repeat this process for each semi-annual period to January 1999 taking into account the impact of each period's DPM volume on the next period's gap analysis assuming that the volume of DPM loans offered each period will grow at an annual rate of 5 percent in real terms over time. If the bank can accommodate this initial and growing volume of loans without liquidity difficulty, a larger initial DPM volume will be used until the maximum initial volume has been calculated. Separately, the team will carry out the same procedure by varying the growth rate, i.e. start with an initial volume of DPM loans equal to the volume of VRM loans from the year before and increase the growth rate until the maximum loan volume growth rate is established.

1. Forecasting OTP's June 1993 and January 1994 Liquidity Gaps. To forecast OTP's July 1993 liquidity gaps, OTP's volume of assets and liabilities broken down by maturity should be reviewed for each quarter of 1992 to observe trends and an assumption should be made about inflation in the first half of 1993. The July 1993 gap analysis in conjunction with the 1992

analyses and estimates about inflation in the second half of 1993 should be used to estimate the January 1994 gap. In addition, the January 1994 analysis should take into account the impact of the introduction of the DPM on the demand for variable rate mortgage loans.

2. DPM Volume and Cash Flow. It is extremely difficult to assess the demand for a mortgage product that has not yet been offered, especially when there is great uncertainty regarding Hungary's future level of mortgage and housing subsidies. For this reason, this analysis will estimate the maximum level of DPM's that OTP could offer without incurring liquidity problems. This analysis will start with the assumption that the future volume of OTP mortgage lending should be at least as large as the volume of VRM lending undertaken during the same season one year previously and that this volume should grow moderately in real terms over time.

Cash inflows from varying DPM volumes can be projected over time with the computer model designed for this purpose.

3. Analyzing Acceptable Liquidity Risk. The State Banking Supervision agency has instructed OTP that its liquidity situation should be "reasonable", but it has yet to provide the bank with a working definition for this term. In the interim, the bank has set a guideline for itself that the total interest it would have to pay on inter-bank loans to offset a cumulative liquidity gap should be no more than 10 percent of the maximum amount it can borrow on the interbank market. OTP projects interest rates on inter-bank lending at 15 to 26 percent depending on when the funds would be required. Thus the bank's guideline implies that it can borrow from 39 to 65 percent of the maximum amount available to it to borrow before it would be forced to take remedial liquidity steps.

Analysts should use the January 1994 cumulative gap, forecast inflows from the DPM, and the bank's liquidity guidelines to see if the bank could accommodate the above-mentioned July through December 1993 DPM volume without liquidity problems.

If this is the case, the bank should use the January 1994 gap analysis incorporating the proposed level of DPM lending in the second half of 1993 to forecast the July 1994 liquidity situation. The bank should then assume that DPM demand in the first half of 1994 will increase by an annual rate of 5 percent in real terms over its July thorough December 1993 level. This demand will then be used to project the OTP's new liquidity situation in July 1994. This process will continue through January 1999.

If this model predicts that the OTP can accommodate this level of DPM lending through 1999 without encountering liquidity problems, the analysis should be repeated assuming a higher initial DPM volume and more rapid growth in lending until the bank has determined the maximum volume it will be possible to lend without encountering liquidity difficulties.

TASK 4: Workplan for Analysis of Growth in OTP Deposits

Introduction

Over the medium term, if OTP does not wish to reduce its lending to other sectors, its ability to expand its mortgage lending volume will depend on the growth in the value of its liabilities. This task will measure the nominal and real growth in OTP liabilities.

Participants

Dr. Judit Burucs and Mrs. Erzsebet Huth of the OTP's Asset/Liability Management Center will be responsible for this task.

Methodology

The bank will measure the nominal and real volume of its liabilities by type of liability from 1989 through 1992. The bank will measure year end liability levels for 1989, 1990 and 1991 and quarterly levels for 1992. Liabilities will be broken down by forint and foreign exchange liabilities, and will be further broken down if more detail is available. The bank will make projections for liability growth for 1993 through 1999 based on the trends displayed in the historical data, and events likely to affect this growth (for example, increased competition with other banks for household deposits).

TASK 5: Workplan for Analysis of Growth in Liabilities for the Hungarian Banking System

Introduction

If deposits for the banking industry as a whole are declining in real terms then it is unlikely that OTP can support a large volume of DPMs by itself, and there may be less opportunity for inter-bank lending or a liquidity facility to make up a liquidity shortfall. Another factor affecting OTP's ability to access banking sector liabilities is the government's demand for bank resources to fund its deficits. This task will measure the nominal and real growth in Hungarian banking liabilities and the amount of banks' assets going to fund the deficit.

Participants

Agnes Kerekes and László Nadrai of the Monetary Policy Department of the National Bank of Hungary will be responsible for this task.

Methodology

Assess the nominal and real growth in forint-denominated deposits and for foreign exchange denominated deposits for the banking system as a whole from 1988 to 1992. Also assess the share of banking system assets taking the form of government debt.

TASK 6: Workplan for Calculating the Impact on Government Expenditures and OTP Revenues of a Switch from the VRM to the DPM

Introduction

The impact on government expenditures of changing from a subsidized Variable Rate Mortgage (VRM) to an unsubsidized or subsidized DPM must be analyzed on a per loan and total volume basis. Because OTP revenues are transferred to the government in the form of taxes or dividends, the impact on OTP revenues of adopting a subsidized or subsidized DPM must also be analyzed.

Participants

Erika Farkas and Zoltán Földi of the Ministry of Finance will be work on this task. They will be assisted by Balázs Horvath of the Policy Department of the OTP.

Methodology to Assess the Impact of DPM Adoption on Government Expenditures and OTP Revenues Measured on a Per Loan Basis

Government Subsidy for Current VRM Loan. Using the VRM computer model provided, calculate the size of a VRM loan an "average" family[3] can afford and the yearly cost to the government of providing that family a social policy grant and payment (interest rate) subsidies. Use the VRM computer model to calculate the present value of this stream of subsidy payments.

Government Subsidy for Unsubsidized DPM Loan[4]. Using the DPM computer model provided, calculate the size of an unsubsidized DPM loan to an average family. Borrowers taking out an unsubsidized DPM will still be eligible for the social policy downpayment. For the purposes of calculating this subsidy, assume the borrowing family has two children. The present value of the stream of subsidy payments is simply the value of the social policy subsidy since it is given in a lump sum in the first year of the loan.

[3] The size of this loan should be equal to the loan that a family with average income could afford based on an initial 30 percent payment to income ratio. The loan will be comprised of a deep subsidy loan and a shallow subsidy loan. For the purposes of calculating subsidies, assume the family has two children and that they purchase a new unit. The computer model will perform this calculation.

[4] "Unsubsidized" loans include the social policy downpayment subsidy because it is extremely unlikely that this subsidy will be eliminated.

Government Subsidy for Subsidized DPM Loan. Using the DPM computer model provided, calculate the size of the subsidized DPM loan an "average" family[5] can afford and the cost to the government per year for the life of the loan. This cost will include the social policy grant and yearly interest rate subsidies as proposed by Mr. Cseh. Use the DPM computer model to calculate the inflation-adjusted value of the stream of subsidy payments.

Subsidy Comparison. For the three loans, compare the affordable loan size, first three years of subsidy expenses and inflation-adjusted value of the total stream of yearly subsidies. Also, for each loan, divide the inflation-adjusted value of the subsidies by the loan size to obtain the subsidy as a percent of loan size.

OTP Revenues. Using the VRM computer model provided, calculate the yearly net revenues OTP would receive from the VRM loan. Using the DPM computer model provided, calculate the yearly net revenues OTP receives from the DPM subsidized and unsubsidized loans. Note that OTP's income from the subsidized VRM and subsidized DPM includes payments it receives from the borrower and from the government. OTP's expenditures include the bank's average cost of funds and administrative expenses.

For each type of loan, use the computer models to divide the yearly net revenues by the outstanding loan balance at the beginning of each year to assess revenues as a percent of assets.

For each type of loan, use the computer models to obtain the inflation adjusted values of the yearly net revenues. For each type of loan, sum the yearly inflation-adjusted net revenues and divide this total by the initial loan size to assess total net revenues as a percent of assets.

It is likely that OTP will cease to be a wholly-owned government bank by 1997. If the team feels it is appropriate, it could consider as government revenues all net inflows to OTP before 1998 and only the portion of net revenues the government will continue to have claim to from 1998 onward. For example, if the team assumes that at the end of 1997, the government will sell one-half of its ownership in OTP, then from 1998 onward, its share of total OTP revenues would be approximately 70 percent.[6] It is recommended that if the team chooses to define government revenues in this narrower manner, it show the results of the analysis both including all OTP net revenues as government revenues and excluding the portion that will belong to private owners.

[5] Again, the size of this loan should be equal to the loan that a family with average income could afford based on an initial 30 percent payment to income. For the purposes of calculating subsidies, assume the family has two children and that they purchase a new unit. The computer model will estimate this loan size.

[6] The government would be entitled to 40 percent of gross income from taxes and 50 percent of the remaining income as an ownership dividend.

Methodology to Assess the Impact of DPM Adoption on Total Government Expenditures and OTP Revenues

Forecasting Future VRM, Unsubsidized DPM and Subsidized DPM Loan Volumes. For each year for the next five years, estimate the demand for the VRM demand in the absence of the DPM. This demand can be estimated based on VRM loan originations over the last three years and projections of inflation and macroeconomic conditions. For each year for the next five years, estimate the demand for subsidized DPMs in the absence of subsidies for the VRM; and the demand for the unsubsidized DPM in the absence of a subsidized DPM and a subsidized VRM. Demand for the subsidized and unsubsidized DPMs can be estimated based on VRM loan originations over the last three years, projections of inflation and macroeconomic conditions, and the difference in affordability of the subsidized VRM and the subsidized and unsubsidized DPM. Both the number and volume of loans of each type must be estimated. As a somewhat crude simplifying assumption, the team could estimate the number of each type of loan and use this information and average family income in Hungary to estimate the volume of each loan likely to be demanded.

Calculating Total Government Subsidies and Total OTP Revenues. The team can use the computer models and methodology described above for individual loans to calculate government subsidies and net OTP revenues by year for the total number of loans issued. In place of individual family loan size, the total value of loans issued in the first year could be used and the resulting annual subsidies and net revenues obtained. This process should be repeated for each of the following four years of loan volume projections and the results summed by year. For example, to obtain the total value of government subsidies for the VRM in the fifth year, all subsidies due that year for loans issued in the previous five years should be added together. Bear in mind that year 1 loans will be in their fifth year of amortization, year 2 loans in their fourth year, and so on.

TASK 7: Deferred Payment Mortgage Profit Accounting for Tax Purposes

Introduction

In the early years of Deferred Payment Mortgage (DPM) repayment, the majority of the interest owed on the loan is capitalized. If this accrued interest is treated as profit, the bank will owe taxes on income it will not receive for months or years. To avoid this problem, the bank's accounting system must distinguish between interest accrued and interest received. The following memorandum outlines how an accounting system can be set up to address this problem.

Participant

This methodology was developed by Paula Ecsedi of OTP's Accounting Department and approved by the accounting regulations department of the Ministry of Finance.

Methodology

The outflow of loans offered, the accrual of interest, and the payment of interest and principal are accounted for with four t-accounts: Asset accounts of cash and loan principal; and liability/profit accounts of capitalized interest and profit. An example will illustrate how these accounts will function. The table on the following page summarizes the example, divided into three steps.

1. A Ft. 100 loan is issued. The cash account is credited, and the principal account is debited.

2. Interest of Ft. 30 accrues. The principal account is debited, and the capitalized interest reserve account is credited.

3. The borrower makes a payment of Ft. 10. The cash account is debited, the principal account is credited, the capital reserve account is debited, and the profit account is credited.

Summary of Accounting for the Deferred Payment Mortgage

ASSETS				LIABILITIES/EQUITY			
Cash		Loan Principal		Capitalized Interest Reserves		Profit	
Debit	Credit	Debit	Credit	Debit	Credit	Debit	Credit
	100^1	100^1					
		30^2			30^2		
10^3			10^3	10^3			10^3

As this example demonstrates, the bank treats as profit only interest income that it has actually received from the customer.

TASK 8: Work Plan for the Evaluation of Alternative Housing Subsidies

Introduction

Various proposals have been advanced for different types of subsidies to be used with the DPM or with the current loan system. Because the type of subsidy has an enormous effect on the affordability of housing finance and the cost to the government, and differing effects on equity and efficiency, it is important to examine each type of subsidy separately. The analysis will also consider the logic behind each subsidy, and the sensitivity to design parameters of the subsidy's effects. This brief analysis will only highlight some of the key characteristics of each proposed type of subsidy.

Participants

József Hegedüs and Katharine Mark will be responsible for this task, with the assistance of Erika Farkas and Pál Cseh of the Ministry of Finance.

Methodology

There are six Housing subsidies now proposed by the Ministry of Finance.

1. The social policy downpayment subsidy is now an integral part of housing finance, and there is discussion of increasing it.

2. An interest-rate subsidy is also currently available, and the introduction of a similar subsidy tied to the DPM is contemplated, to replace the VRM interest-rate subsidy in July 1993. One subsidy design would cover 4 percent for first five years, 3 percent for next five, 1 percent for third five.

3. Income tax allowances are being proposed for consideration in the fall of 1993. At present the only similar subsidy is a tax allowance for savings earmarked for home purchase. The new design would permit tax deductions of up to 30 percent of income for home purchase, up to 50 percent of the sales price.

4. A loan guarantee scheme to guarantee bank losses is proposed by the Ministry of Finance. No payment would be made by the bank for this service; compensation would be available only after foreclosure had been attempted and would only cover 80 percent of the bank's loss.

5. A mortgage insurance scheme was suggested by the World Bank. Households would pay for insurance against possible default.

6. A refund of the Value-Added-Tax for housing was approved in December of 1992. The refund would be for a maximum of 60 percent of what was spent on housing, or a maximum of 400,000 Ft./unit. The maximum can be increased in 1995.

These subsidies will be evaluated according to a number of criteria:

1. How effective is targeting? Is it regressive?
2. Is the subsidy transparent?
3. How costly to the government is the subsidy? Is the cost in the short or long term? Is the cost easy to predict?
4. How does the subsidy affect affordability? How many households will be assisted to enter the market? How deeply will each household be subsidized?
5. What is the possible multiplier effect of the subsidy on the housing sector? Do subsidies earmarked for new homes encourage new construction at the expense of greater mobility among existing homes?